

**Staff Report  
for**

***Item 11  
Discussion  
February 9, 2005***

<b>Supporting Document 2 Item 11</b>
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**To: John H. Robertus  
Executive Officer**

**From: Paul J. Richter  
Water Resource Control Engineer  
Industrial Compliance Unit**

**Tentative Order No. R9-2005-0008  
NPDES Permit No. CA0107239**

**WASTE DISCHARGE REQUIREMENTS**

**FOR**

**UNIVERSITY OF CALIFORNIA**

**SCRIPPS INSTITUTION OF OCEANOGRAPHY**

**SAN DIEGO COUNTY**

**Background**

The Scripps Institution of Oceanography (SIO) has been discharging wastewater into the ocean since 1910 from its seawater system that supplies seawater to the aquaria and research laboratories. The discharge occurs at the seawall and flows across the beach into the *San Diego Marine Life Refuge*, an area designated as an *Area of Special Biological Significance* (ASBS). The first NPDES permit adopted for the discharges at SIO by this Regional Board was Order No. 74-47, which was adopted on September 16, 1974. The NPDES permit has been re-issued in 1979, 1984, 1994 and 1999. The most recent permit is Order No. 99-83, NPDES Permit No. CA0107239, which was adopted on November 10, 1999 and expired on November 10, 2004. The NPDES permit has been administratively continued.

Since the issuance of Order No. 99-83, the State Water Resources Control Board (State Board) has required SIO to apply for and obtain an exception to the 2001 California

Ocean Plan (Ocean Plan) for discharge of wastes to an ASBS. The Ocean Plan prohibits wastes discharges to ocean waters that are designated ASBS. The Ocean Plan allows the State Board to grant exceptions to the Ocean Plan requirements, including the prohibition of waste discharges to an ASBS. An Ocean Plan exception by the State Board is required for the discharges from the SIO because the discharges at SIO flow across the beach into the *San Diego Marine Life Refuge*, an ASBS.

On July 22, 2004, the State Board adopted Resolution No. 2004-0052, which approved a *Mitigated Negative Declaration* for an exception for the discharges from the SIO seawater system and for the discharges of municipal storm water from SIO to the *San Diego Marine Life* ASBS. If the State Board had not issued an exception to the Ocean Plan prohibition, SIO would have been required to terminate the discharges of wastewater to the *San Diego Marine Life Refuge*.

### **Summary**

Tentative Order No. R9-2005-0008 renews the existing NPDES permit, Order No. 99-83, for the SIO and contains significant changes to the current NPDES permit. The tentative Order incorporates the numerous conditions required by the Ocean Plan exception adopted by the State Board.

The conditions include 16 studies or reports, 19 monitoring requirements, four prohibitions and five provisions. The State Board conditions for the NPDES permit renewal include the following:

1. The discharge must comply with all applicable provision, including water quality standards, of the Ocean Plan.
2. The establishment of numerical effluent limitations for the seawater system discharges and for seawater system discharges that are combined with storm water discharges. (Effective three years after adoption of the tentative Order, the discharges of the seawater system or municipal storm water combine with the seawater system discharge must comply with numerical effluent limitations. The tentative Order requires the discharge of municipal storm water to comply with narrative effluent limitations.)
3. The establishment of bacterial receiving water limitations.
4. The requirement that a committee be developed to review monitoring data and define *natural water quality conditions*.
5. Requirements that the discharger develop and submit reports and studies to: a) develop and implement a *Storm Water Management Plan/Program*; b) survey the benthic marine life; c) conduct a bioaccumulation study for metal concentrations in sand crabs; d) determine initial dilution of the discharges during dry weather and during a storm event; e) determine fate of the discharges during dry weather and during a storm event; f)

describes administrative and engineering controls for minimizing the risk of the release of exotic species; and g) identify conditions that cause an alteration of natural water quality.

6. Prohibitions that the discharges at SIO do not alter the natural water quality of the receiving water and do not contain Formalin.
7. A requirements that effective January 1, 2007, SIO eliminate all discharges of non-storm urban runoff (i.e. any discharge of urban runoff to a storm drain that is not entirely composed of storm water, except fire fighting or catastrophic events).
8. The State Board's Ocean Plan exception expires on the date the tentative NPDES expires, five years after the adoption of the tentative Order.
9. Provisions that SIO: a) minimize chemical concentrations in the effluent; b) eliminate the use of copper in the seawater system discharge; c) minimize all additives to the seawater system at the Birch Aquarium; d) use an analytical method with a minimum limitation that allows for determination of compliance, currently Inductively Coupled Plasma/Mass Spectrometry for copper discharges; and e) develop controls that result in the negligible risk of the release of exotic species.

The conditions specified in State Board Resolution No. 2004-0052 are listed and discussed in the Fact Sheet for the tentative Order (pp. 4-8). The State Board Resolution and the supporting Initial Study are Attachment No. 1 to the Fact Sheet.

All of the State Board exception conditions are included in the tentative, either in the Order as *Special Conditions* (tentative Order, pp.6-16), or in the monitoring requirements in the tentative Monitoring and Reporting Program (MRP). The exception conditions in the MRP are not listed as separate conditions.

### **Facility Discharge History**

The SIO has been discharging wastewater into the ocean in the vicinity of its pier since 1910. The first Waste Discharge Requirements were issued by the Regional Board on September 30, 1969 (Order 69-R24). The current seawater intake system has a capacity to pump approximately 1 million gallons per day of seawater from the seaward end of the SIO Pier. The water is filtered through two sand filters before it is pumped to two storage tanks and is then used in various research laboratories and aquaria at SIO, including the aquaria at the Stephen Birch Aquarium.

There are five discharge points. Discharges of seawater system wastewater at SIO occurs at four Outfalls, Outfall 001, 003, 004a, and 004b. Storm water discharges during rain events can also combine with the discharges from Outfall 001, and 003. Outfall 002 previously discharged seawater system water, but recently, SIO terminated the seawater system discharges at Outfall 002. Outfall 002 only discharges storm water during rain events.

- Outfall 001: Discharges approximately 470,000 to 700,000 gallons per day (gpd) of waste seawater that has been circulated through the Stephen Birch Aquarium, the National Marine Fisheries aquaria, Hubbs Hall aquaria, and intermittent tank discharges from the Hydraulic Laboratory and Keck Center for Ocean Atmosphere Research. Storm water is also discharged from this Outfall.
- Outfall 002: This Outfall does not discharge wastewater from the seawater system, but does discharge municipal storm water.
- Outfall 003: Discharges approximately 140,000 to 200,000 gpd of waste seawater from the Experimental Aquarium and an additional 140,000 to 210,000 gpd from the Ring Tank Complex when it is in use. The Ring Tank Complex is in use approximately twelve to sixteen weeks during the year. Storm water also discharges from this Outfall.
- Outfall 004a  
and 004b: Discharges approximately 45,000 to 140,000 gpd of waste seawater from holding tank overflow and sand filter backwash respectively. These Outfalls do not discharge storm water.

The wastewaters from all Outfalls are discharged onto the beach where they flow across the beach and into the surf zone of the *San Diego Marine Life Refuge*, an ASBS.

#### **Availability of the tentative Order**

The tentative Order was mailed on January 6, 2005, 34 days prior to today's meeting.

#### **Comment letters**

We received two letters from the State Board regarding the tentative Order. On November 9, 2004, we received a comment letter from Ms. Celeste Cantú, Executive Director, State Board. On December 20, 2004, we received a memorandum from Mr. Stan Martinson, Chief, Division of Water Quality, State Board. Each of these documents provided additional guidance regarding the State Board's Ocean Plan Exception for SIO. The documents are included in this agenda package.

We received one comment letter from SIO dated January 26, 2004. The SIO letter provided specific comments regarding the tentative. A response to the SIO comments will be provided in the supplemental mailing for this item.